Francesco Terzuoli
Place of birth: Siena, Italy
Nationality: Italy
Languages: Italian, English
About me: Avid reader, pianist, too clumsy for sports

Education	
	High school: Liceo Scientifico "G. Marconi" Grosseto (GR)
	Bachelor's Degree in Physics at University of Pisa
	Master's Degree in Physics at University of Pisa

Master Thesis: Precision measurement of time-dependent charm
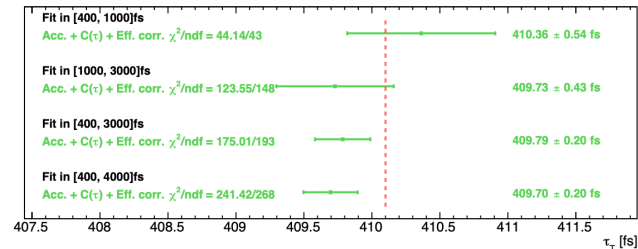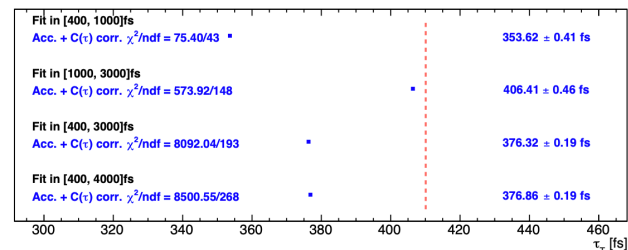observables at high-luminosity LHCb
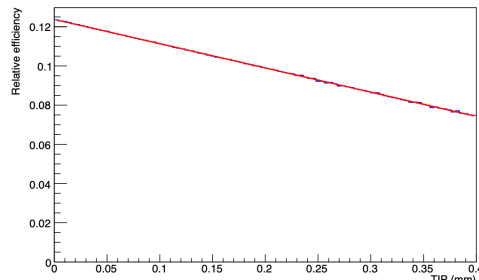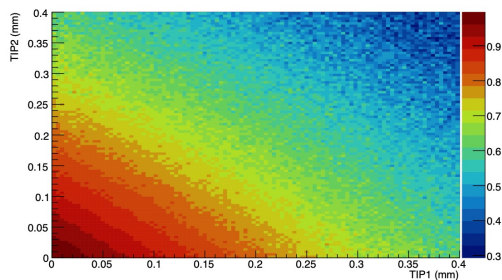
PhD Project Information

CERN-THESIS-2022-209

$$y_{CP} \approx \frac{\hat{\Gamma}_{CP}}{\hat{\Gamma}_{K\pi}} - 1 = \frac{\tau_{K\pi}}{\tau_{CP}} - 1$$

I am member of LHCb collaboration and working with the LHCb-Pisa group

The project is two-party:

1) Measuring time-dependent CP violation in the netural D^0 system at high precision with a novel data-driven technique for extracting time-dependent reconstruction and selection efficiencies

PhD Project Information

Presented at CDT2023
Working on final approval by LHCb
for DWT tracking with Retina in Run4

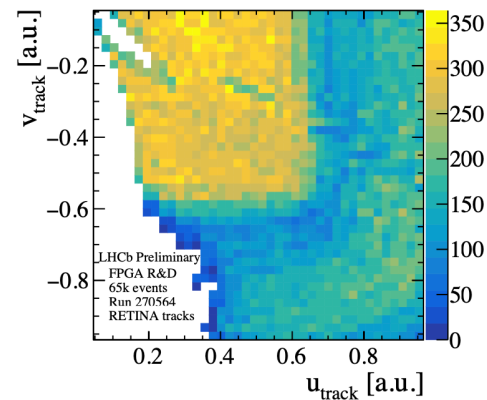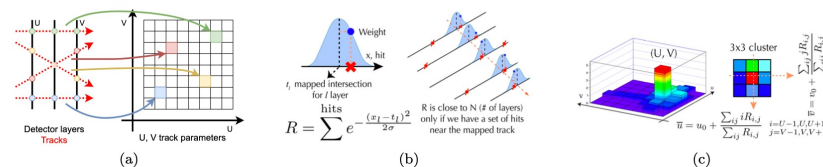I am member of LHCb collaboration and working with the LHCb-Pisa group

The project is two-party:

2) Ensure the repeatibility of the measurement at HL-LHC by freeing resources in the trigger stage for more dedicated (exclusive) selections and moving track reconstruction (30MHz) at the read-out stage

RETINA Project

A new architecture for reconstructing tracks on FPGA with an approach similar to the Hough tranform

Developed real-size demonstrator covering part of VELO detector

<u>Unprecedented event rate 19.0 MHz</u> + **run live on real data**

$$R = \sum^{hits} e^{-\frac{(x_l - t_l)^2}{2\sigma^2}}$$

LHCb Preliminary
FPGA R&D
65k events
Run 270564
RETINA tracks

LHCB-FIGURE-2023-025